

Serial No.: 09/157,018

Attorney Docket No: MCS-013-98

### IN THE CLAIMS

1. (Previously Presented) A method for dynamically displaying data values on a client computer, comprising:
  - transmitting a request for information based on user-defined criteria from the client computer such that transmitted results are narrowed, limited and targeted to the information;
  - receiving transmitted results, sub-items associated with the results, and rules of enforcement of sub-item combinations in a predefined format through a communications interface in response to a the request from the client;
  - displaying a first set of results on a client display device;
  - processing the results in real time using the client computer in response to user adjustment of the results and sub-item configuration on the client computer;
  - preventing a user from creating and encountering sub-item conflicts using the transmitted rules of enforcement, the transmitted rules of enforcement containing all potential configurable conflicts between sub-items; and
  - dynamically displaying the processed results on the client display device.
2. (Previously Presented) A display device having rendered thereon dynamically changing results of a database query, comprising:
  - a set of results, criteria associated with the set of results, and rules of enforcement of the criteria being stored as data on a server, wherein the data is transmitted from the server to a remote client that made a request for information based on user-defined criteria from the client computer such that the transmitted set of results is narrowed, limited and targeted to the information for display on the client, the data being transmitted as encoded data, the rules of enforcement containing all predefined known conflicts between the associated criteria in different data fields;
  - at least one dynamic output; and
  - at least one adjustable interface option displayed on the client adapted to enable adjustment by the remote client of the associated criteria confined within the

Serial No.: 09/157/018

Attorney Docket No: MCS-013-98

transmitted rules of enforcement for causing the dynamic output to change in real time such that potential configurable conflicts between the associated criteria are prevented.

3. (Original) The display device of claim 2, wherein the adjustable interface tools comprise input boxes for adjusting criteria of associated criteria in real time.

4. (Original) The display device of claim 2, wherein the interface tools are input boxes, drop-down menus, check boxes and radio buttons.

5. (Original) The display device of claim 2, wherein the interface tools include dynamically coupled check boxes so that designated check boxes dynamically change as a user configures conflicting interface tools constrained by the rules of enforcement.

6. (Previously Presented) The method of claim 1 further comprising providing a graphical user interface for allowing the user to adjust the results and associated sub-items.

7. (Previously Presented) The method of claim 1 wherein the data values comprise pricing data for at least one object, and the associated sub-items comprise user selectable options for the object.

8. (Previously Presented) The method of claim 1 wherein at least one previously selected sub-items are automatically deselected when a user selects a new sub-item which conflicts with the at least one previously selected sub-items.

9. (Previously Presented) The method of claim 1 wherein at least one additional sub-items are automatically selected when a user selects a sub-item which requires selection of the at least one additional sub-items.

10. (Previously Presented) The method of claim 1 wherein the rules of enforcement for sub-item combination are processed in the background.

Serial No.: 09/157,018

Attorney Docket No: MCS-013-98

11. (Previously Presented) The method of claim 1 wherein remote processing of the results and associated sub-items continues in response to user interaction with the results and associated sub-items on the client display device after the communications interface between the server and the client has been terminated.

12. (Previously Presented) The method of claim 8 wherein the graphical user interface has at least one graphical control for allowing the user to dynamically adjust the displayed data and sub-items.

13. (Previously Presented) A method for dynamically displaying pricing data on a client display device comprising:

- establishing a communications interface between a client computer and a server computer;

- requesting pricing data from the client to the server for at least one object;

- generating pricing data with associated options and rules for selection and combination of the associated options for each object at the server;

- transmitting the pricing data, associated options, and rules for selection and combination of the associated options from the server to the client;

- displaying a first set of pricing results on the client display device;

- providing a user interface on the client display device for user interaction with the pricing data and selection and combination of the associated options;

- using the rules to prevent a user from encountering a conflict by automatically correcting any conflicts to prevent the conflicts from being displayed during the user interaction with the pricing data, the rules for selection and combination containing all potential conflicts that may occur during the user interaction and corresponding safeguards to prevent the user from encountering and viewing a conflict during the user interaction with the pricing data; and

- dynamically updating the pricing data using the client computer to process the update and displaying the pricing data on the client display device in response to

Serial No.: 09/157,018

Attorney Docket No: MCS-013-98

user interaction with the pricing data and associated options, and rules for selection and combination.

14. (Previously Presented) The method of claim 13 wherein the rules for selection and combination of the associated options automatically prevent user selection or combination of incompatible or conflicting options.

15. (Previously Presented) The method of claim 13 wherein the pricing data and associated options are dynamically updated and displayed on the client display device in response to user interaction with the pricing data and associated options.

16. (Previously Presented) The method of claim 13 wherein at least one previously selected options are automatically deselected when the user selects a new option which conflicts with the at least one previously selected options.

17. (Previously Presented) The method of claim 13 wherein at least one additional sub-items are automatically selected when a user selects a sub-item which requires selection of the at least one additional sub-items.

18. (Previously Presented) A method for enforcing valid combinations of data using a server computer, comprising:

receiving a request for information based on user-defined criteria from a remote computer such that transmitted results are narrowed, limited and targeted to the information;

transmitting results, sub-items associated with the results, and rules of enforcement of sub-item combinations in a predefined format from the server to the remote computer in response to the request, wherein processing of the transmitted results is performed in real time in response to a user adjustment of the transmitted results and sub-items associated with the transmitted results; and

preventing a user of the remote computer from creating, and encountering, and viewing conflicts between sub-items in different data fields during the

Serial No.: 09/157,018

Attorney Docket No: MCS-013-98

user adjustment of the sub-items by using the rules of enforcement such that only the sub-items applicable to the user-defined criteria are displayed on the remote computer, the rules of enforcement containing all potential configurable conflicts and predefined known conflicts between the sub-items.

19. (Previously Presented) The method of claim 1, further comprising:  
receiving a transmitted control module; and  
using the control module to process the results in real time.
20. (Previously Presented) The method of claim 19, wherein the control module has a graphical user interface for allowing the user to interact with the results and associated sub-items on the client display device
21. (Previously Presented) The method of claim 19, wherein the results comprise pricing data for at least one object, and the associated sub-items comprise user-selectable options for the objects.
22. (Previously Presented) The method of claim 19, wherein a warning message is automatically displayed by the control module when a user selects a sub-item which conflicts with at least one of the sub-items already selected by the user.
23. (Previously Presented) The method of claim 19, wherein a previously selected sub-item is automatically deselected by the control module when a user selects a sub-item that conflicts with the previously selected sub-item.
24. (Previously Presented) The method of claim 19, wherein the control module automatically displays a message on the client display device prompting the user to select between conflicting sub-items when the user selects a sub-item that conflicts with a previously selected sub-item.

Serial No.: 09/157,018

Attorney Docket No: MCS-013-98

25. (Previously Presented) The method of claim 19, wherein the control module is capable of remotely processing the results and associated sub-items in response to user adjustment of the results and sub-items after the communications interface between the server and the client has been terminated.

26. (Previously Presented) The method of claim 1, wherein the communications interface is the Internet.

27. (Previously Presented) The display device of claim 2, further comprising:  
a control module stored on the server, wherein the control module is transmitted from the server to a remote client in response to a request by the client;  
wherein the adjustable interface option displayed on the client is adapted to communicate with the control module, and wherein the control module facilitates the adjustment by the remote client of the associated criteria confined within the transmitted rules of enforcement that causes the dynamic output to change in real time.

28. (Previously Presented) The display device of claim 27, wherein the interface options include input boxes that are dynamically coupled such that the input boxes dynamically change as a user adjust the associated criteria.

29. (Previously Presented) The display device of claim 28, wherein the interface options further include display markers as indicia of potential sub-item conflicts.

30. (Previously Presented) The display device of claim 28, wherein the interface options further include dynamically activated dialog boxes for displaying potential sub-item conflicts, providing suggestions to resolve the conflicts and providing user interaction to resolve the conflicts.

31. (Previously Presented) The method of claim 13, further comprising:  
transmitting a control module from the server to the client; and

Serial No.: 09/157,018

Attorney Docket No: MCS-013-98

using the control module to dynamically update the pricing data and process the update.

32. (Previously Presented) A method for dynamically displaying data values on a client computer, comprising:

- transmitting a request for information based on user-defined criteria from the client computer such that transmitted results are narrowed, limited and targeted to the information;

- receiving transmitted data values, sub-items associated with the data values, and rules of enforcement of sub-item combinations in a predefined format through a communications interface in response to a request from the client computer, the rules of enforcement containing all known conflicting sub-item combinations;

- creating a control module on the client computer;

- using the control module to control the transmitted data values and process in real time user adjustment of the transmitted data values and sub-item combinations;

- automatically noting the known conflicting sub-item combinations between a sub-item in a first field and another sub-items in second field using the rules of enforcement;

- preventing a user from creating, encountering, and viewing conflicts between sub-item combinations during the real-time user adjustment using the noted known conflicting sub-item combinations such that only the sub-items applicable to the user-defined criteria are displayed on the remote computer;

- automatically selecting at least one additional sub-item in response to a user selecting a sub-item during the user adjustment of the transmitted data that requires selection of the at least one addition sub-item; and

- dynamically displaying the processed data values on a client display device of the client computer.

Serial No.: 09/157,018

Attorney Docket No: MCS-013-98

33. (Previously Presented) The method of claim 32, wherein creating the control module further comprises receiving the transmitted control module from a server in response to a request from the client computer.

34. (Previously Presented) The method of claim 32, wherein creating the control module further comprises dynamically creating the control module on the client computer.